



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/887,088	06/25/2001	Hideo Kawamura	KAWAMURA65	7433

1444 7590 08/13/2002

BROWDY AND NEIMARK, P.L.L.C.
624 NINTH STREET, NW
SUITE 300
WASHINGTON, DC 20001-5303

EXAMINER

PHAM, LEDA T

ART UNIT	PAPER NUMBER
----------	--------------

2834

DATE MAILED: 08/13/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/887,088

Applicant(s)

KAWAMURA, HIDEO

Examiner

Leda T. Pham

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because it is out of the range 50 to 150 words. Correction is required. See MPEP § 608.01(b).
3. The disclosure is objected to because of the following informalities: on page 16 line 5, "S" should be changed to -N-. Page 18 line 10 - 14, what does it mean by "the windings more in the number of turns are large in absolute number of turns? " Page 27, the reference sign "14e" and "a relay" are not included in the drawings (see 37 CFR § 1.84p).

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 1, 7 and 17 recite the limitation "shunt-wound" in claim 1, 7 and 17. There is insufficient antecedent basis for this limitation in the claim. What is "shunt-wound? " and how is it different from "concentrated-wound. "

Art Unit: 2834

6. Claims 16 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite because of the alternative claimed language (and/or) which does not positively recites the limitations of the invention. Also, it has been hold that the functional “whereby” statement (line 4) does not define any structure and accordingly can not serve to distinguish. *In re Mason, 114 USPQ 127, 44 CCPA 937*. “low tension, high tension” lacks antecedent basis. Here it is assumed that the applicant intended to said “low power, high power”.

7. Claims 17 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite because of the alternative claimed language (and/or on line 4) and the indefinite claim language (so on, line 8 of the claim) which does not positively recites the limitations of the invention.

8. Claims 19 – 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 19, what does the inverter convert direct to alternating form to drive a motor? In claim 20, how are the winding sets such arranged that working windings come in symmetry on generation? Here, it is understood the inverter convert direct current.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

10. Claims 1, 7, and 12 -15 are rejected under 35 U.S.C. 102(e) as being anticipated by Nishimura U. S. Patent No. 6,407,476 B1.

Nishimura teaches a generator (figure 5) with plural power-generation characteristics, comprising a rotor shaft (6) supported for rotation in a stator frame (3), a rotor (7) mounted against rotation on the rotor shaft, and a stator (8) arranged around the rotor and fixed to the stator frame, wherein the stator (figure 4) is comprised of an inside cylinder arranged around the rotor to define an air gap between confronting surfaces of them (figure 5 does not show the gap but inherently between a stator and a rotor have a gap), teeth (figure 4) arranged spaced circumferentially on the inside cylinder to form sequential slots(15a), an outside cylinder surrounding around tooth tips of the teeth, more than one systems of stator windings either concentrated-wound or shunt-wound with a preselected slot span (figure 4), one of which is low power windings each containing a small number of turns while another of which is high power windings each containing a large number of turns, and terminal lines having terminals connected to any preselected low power and high power windings (column 8, line 28 – 32).

Referring to claim 7, Nishimura teaches the stator windings (figure 2 and figure 4) concentrated-wound around a field pole corresponding to any pole of the rotor are shunt from

Art Unit: 2834

series connections into parallel connections as an rpm of the rotor increases, thus regulating a generated voltage.

Referring to claim 12, Nishimura teaches a generator (figure 5) with diverse power-generation characteristics, comprising a rotor (7) supported for rotation in a stator frame (3) and having mounted with permanent magnets of multiple poles, and a stator (8) arranged around the rotor and fixed to the stator frame, wherein the stator is composed of a stator core (15) having teeth arranged spaced circumferentially to form sequential slots and confronting an outer periphery of the rotor to define an air gap between them (figure 5 does not show the gap but inherently between a stator and a rotor have a gap), and more than one windings (16) wound spanning across the slots, the windings being each grouped into three winding sets that are divided circumferentially with a slot span on the stator core, the windings belonging to each winding set being wound displaced in slot circumferentially 120 electrical degrees apart to form a three-phase system of windings, and wherein terminals are distributed uniformly over an inside circumference of the stator such that the windings in a 2nd winding set are arranged in the stator slots so as to overlap with a 1st winding set in waveform of emf, while a 3rd winding set overlaps with the 1st set and the 2nd set in waveform of emf, and a controller unit changes over connections of the terminals every winding sets, thus giving any electric power varied in voltage (column 5).

Referring to claim 13, Nishimura teaches the winding (16) are grouped into any of three and four winding sets, which are laid in the slots displaced circumferentially of the inside cylinder (figure 4).

Art Unit: 2834

Referring to claim 14, Nishimura teaches a-c power produced in the windings in the winding sets is rectified at a rectifier circuit (12A), and the resultant rectified power is adjusted by a chopper circuit to a preselected voltage (figure 1).

Referring to claim 15, Nishimura teaches the winding sets (40, 50, 60) are each constructed in mutually independent electric power source where the produced power may be used either remained a-c form or converted to d-c form.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 2 – 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura in view of Rosenberg (U. S. Patent No. 4,403,401).

Nishimura teaches a generator (figure 5) wherein the stator (figure 4) has a stator core (15) including a circular toothed member, the circular toothed member being composed of the inside cylinder and the teeth that are integral with the inside cylinder and extend radially outwardly to form the slots opened radially outwardly. However, Nishimura does not teach the stator has a cylindrical magnetic path and being prepared separately from the toothed member and fit over the toothed member.

Rosenberg teaches in figure 1 a stator having a cylindrical magnetic path (4) and being prepared separately from the toothed member and fit over the toothed member (5) to assure a close tolerance fit in stator.

It would have been obvious to one skilled in the art at the time the invention was made to modify Nishimura's generator with the stator having a separated cylindrical magnetic path as taught by Rosenberry for the purpose of assuring a close tolerance fit in stator.

Referring to claim 3, the combination of Nishimura and Rosenberry refs substantially discloses the cylindrical magnetic path is closely press fit over sequential tooth tips of the teeth of the toothed member, together with a cylinder of soft material (resin) superior in magnetic permeability.

Referring to claim 4, the combination of Nishimura and Rosenberry refs substantially discloses a resinous material is poured on the stator then, followed by solidified to hold in place the stator windings laid in the slots between any two adjacent teeth of the toothed member.

Referring to claim 5, the combination of Nishimura and Rosenberry refs substantially discloses the stator windings are led through radially outward slot openings of the slots between the adjacent teeth of the toothed member and wound spanning some slots, while the cylindrical magnetic path fits over the toothed member in which the windings laid in the slots have been held in place with the resinous material.

Referring to claim 6, the combination of Nishimura and Rosenberry refs substantially discloses the resinous material is made of any heats-table material hard to be fused owing to heat emanated from the stator windings.

13. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura in view of Takura (U.S. Patent No. 6,323,574 B1.)

Nishimura teaches a generator having all the limitation of the base claim but does not teach the produced power is regulated by on-off operations of switches installed in lines

Art Unit: 2834

connecting the stator windings with the terminals. Takura teaches a polyphase motor apparatus (figure 3) having the switches (32, 33, 34) installed in lines connecting the stator windings with the terminals wherein the produce power is regulated by on –off operations. (Figures 15, 16 and 17).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Nishimura's generator with the switches as taught by Takura for regulating on – off operation of the produced power.

14. Claim 10 – 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura in view of Mishiyama et al. (U. S. Patent No. 6,340,857 B2).

Nishimura teaches a generator having a rotor but does not teach the rotor comprises a permanent-magnet member composed of permanent-magnet pieces arranged spaced from each other around the rotor shaft, and resinous adhesives bonding together any adjacent permanent-magnet pieces, and a reinforcing member of non-magnetic property surrounding around the permanent-magnet member, the reinforcing member being coated at the inside surface thereof with adhesives.

Mishiyama teaches in figure 1, a motor having a rotor comprising a permanent-magnet member (12) composed of permanent-magnet pieces arranged spaced from each other around the rotor shaft (16), and resinous adhesives bonding together any adjacent permanent magnet pieces (column 4, lines 35 – 40), and a reinforcing member of non-magnetic property surrounding around the permanent-magnet member, the reinforcing member being coated at the inside surface thereof with adhesives for restraining an eddy current.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Nishimura's generator with the rotor as taught by Mishiyama to restrain an eddy current.

Referring to claim 11, Nishimura teaches a generator having a permeable member (20, figure 5) disposed between the rotor shaft and the permanent-magnet member.

15. Claims 17 –21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura in view of Fei (U. S. Patent No. 6,255,755 B1.)

Nishimura substantially teaches a generator having the windings but does not teach the function of the windings. Fei teaches the windings (figure 1, 22,24, and 26) for high tension are divided into three winding sets, the terminals of the windings are selectively connected in series or parallel by the controller unit (34, 36), and the windings for low tension are concentrated-wound to produce the low tension needed to operate the automotive electric system.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Nishimura's generator with the winding connected to a controller unit as taught by Fei to control the power in the generator.

Referring to claim 18, the combination of Nishimura and Fei refs substantially discloses the controller unit (34, 36) connects all the concentrated-wound winding sets in series to ensure the maximum high tension, connects any of the concentrated wound windings in series to ensure any tension less than the maximum high tension and further connects all the concentrated-wound windings in parallel to produce the minimum tension.

Referring to claim 19, the combination of Nishimura and Fei refs substantially discloses the controller unit controls an inverter to convert direct current to alternating form to drive a motor by the electric power produced in the windings in the winding sets.

Referring to claim 20, the combination of Nishimura and Fei refs substantially discloses the winding sets are such arranged that working windings come in symmetry on generation.

Referring to claim 21, the combination of Nishimura and Fei refs substantially discloses the windings in the winding sets are connected to form either a wye-connection or a delta-connection to provide a three-phase system of windings, and ends of the wye-connected or delta-connected windings are connected in series to the terminals through a relay.

16. Claim 8 and claim 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura. Nishimura teaches the power produced in the windings supplying to the electric system, a vehicle. Regarding claim 8 and claim 16 which recite the function of using electric power produced in the low power and high power windings to an automotive electric system and to auxiliaries. Those are intended use claims, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Art Unit: 2834

Conclusion

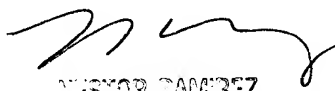
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leda T. Pham whose telephone number is (703) 305-4864. The examiner can normally be reached on M-F (7:30-5:00) first Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-9176 for regular communications and (703) 305-1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-3431.

Leda T. Pham
Examiner
Art Unit 2834

LTP
August 9, 2002


NESTOR RAMIREZ
SENIOR PATENT EXAMINER
AUG 10 2002